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The Trusted Integrator for Sustainable Solutions

VIA FEDEX

12 August 2010

Ms. Lynn Vogel, Case Manager
New Jersey Department of Environmental Protection
Bureau of Case Management
401 E. State St.
5th Floor, PO Box 028
Trenton, NJ 08625

Re: Hatco Site
Fords, New Jersey
Program Interest Number G000003943
EPEC Split Sample Findings

Dear Ms. Vogel:

Weston Solutions, Inc. (Weston[®]) has received the analytical results of split samples collected by Weston during the Channel D field sampling event conducted by EPEC Polymers Inc. (EPEC) on 11 June 2010. Additionally, Weston has conducted an initial review of data provided by EPEC and USEPA for the samples they collected during that sampling event.

EPEC retained Brown and Caldwell (B&C) to conduct sampling of a tar-like substance present on the Channel D property which EPEC believes is related to historic Hatco site operations. EPEC generally refers to this tar-like material as "NAPL". As part of the field effort, B&C collected paired samples at five pre-determined locations, with one sample from within the tar-like material and a second sample collected from the soil directly below the tar-like material. A Weston representative accompanied B&C in the field and collected additional aliquots of sample material from each of the B&C sample locations. Weston samples were analyzed for semi-volatile organic compounds (SVOCs) plus a library search, and polychlorinated biphenyls (PCBs). EPEC samples were analyzed for SVOCs, selected volatile organic compounds (VOCs), PCBs, and various additional analytes; specifically a wide range of polychlorinated triphenyls, naphthalenes and chlorinated compounds.

Based upon the contaminant distribution in "NAPL" samples and the inconsistency in contaminant occurrence, Weston believes it is unlikely that the "NAPL" material is resultant from a single release or single source. Due to the general lack of chlorinated contaminants the relatively low PCB concentrations and the lack of similarity to Hatco LNAPL, the tar-like material is not believed to be related to historic Hatco operations. These conclusions are supported by the sampling data analyses presented in this letter.

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During the June 2010 sampling event, a representative of the USEPA also collected a sample of the tar-like material for PCB and SVOC analysis. Weston has received and reviewed the USEPA and EPEC analytical results. Constituents detected on the Channel D property include those listed in the table below.

Contaminant	Applicable Cleanup Criteria	Weston Sample Location with Exceedance of NJDEP RDCSCC / RDCSRS	EPEC Sample Location with Exceedance of NJDEP RDCSCC / RDCSRS
Benzo(a)anthracene	0.9 mg/kg	NAPL-B, NAPL-F	None
Benzo(a)pyrene	0.66 mg/kg	NAPL-B, NAPL-F	NAPL-E, NAPL-D Soil
Benzo(b)fluoranthene	0.9 mg/kg	NAPL-B, NAPL-F	None
Bis(2-ethylhexyl) phthalate	49 mg/kg	NAPL-D, NAPL-E	NAPL-B, NAPL-C, NAPL-D, NAPL-E
Chlorobenzene	37 mg/kg	None	NAPL-D
1,4-dichlorobenzene	5 mg/kg	NAPL-D	NAPL-D
Indeno(1,2,3-cd)pyrene	0.9 mg/kg	NAPL-B, NAPL-F	None
PCBs	0.49 mg/kg (soil)	NAPL-D, NAPL-E	NAPL-B, NAPL-C, NAPL-D

Note that in addition to the tar-like material samples that are the focus of this letter, EPEC also collected soil and sediment samples throughout portions of Channel D not related to the tar-like material, as well as from the drainage system along Industrial Avenue. The results of those samples are currently undergoing evaluation by Weston and are not included in this discussion.

Variability in Sample Analytical Results

A review of the tar-like material sample results indicates substantial variability between the three data sets (Weston, EPEC, and USEPA) as well as between sample locations. Several semi-volatile organic compounds (SVOCs) were detected sporadically in both the Weston and EPEC NAPL samples above applicable NJDEP cleanup criteria, with little correlation between the two data sets. For example, in Weston sample NAPL-B; both benzo(A)pyrene and benzo(A)anthracene were detected above cleanup criteria, but the corresponding EPEC samples were non-detect for these compounds. Conversely; Weston's NAPL-D sample contained moderate levels of dichlorobenzenes and low levels of bis(2-ethylhexyl phthalate) [BEHP], while the corresponding EPEC sample NAPL-D shows very high levels of both dichlorobenzenes and BEHP. This variability is consistent throughout the Weston and EPEC datasets. Figure 1 illustrates the variability in contaminant concentrations and distributions among the three sample sets.

The figure consists of three bar charts, each showing the concentration of various compounds in mg/kg. The y-axis for all charts is 'Concentration (mg/kg)'.

NAPL_D (Weston)

This chart shows the highest concentrations for several compounds, with 1,2,4-Trichlorobenzene being the most prominent at approximately 820 mg/kg. Other significant compounds include 1,2-Dichlorobenzene (~350 mg/kg) and 2-Methylnaphthalene (~350 mg/kg). The x-axis lists 30 compounds, including various chlorinated benzenes, naphthalenes, and phenols.

NAPL_D (EPEC)

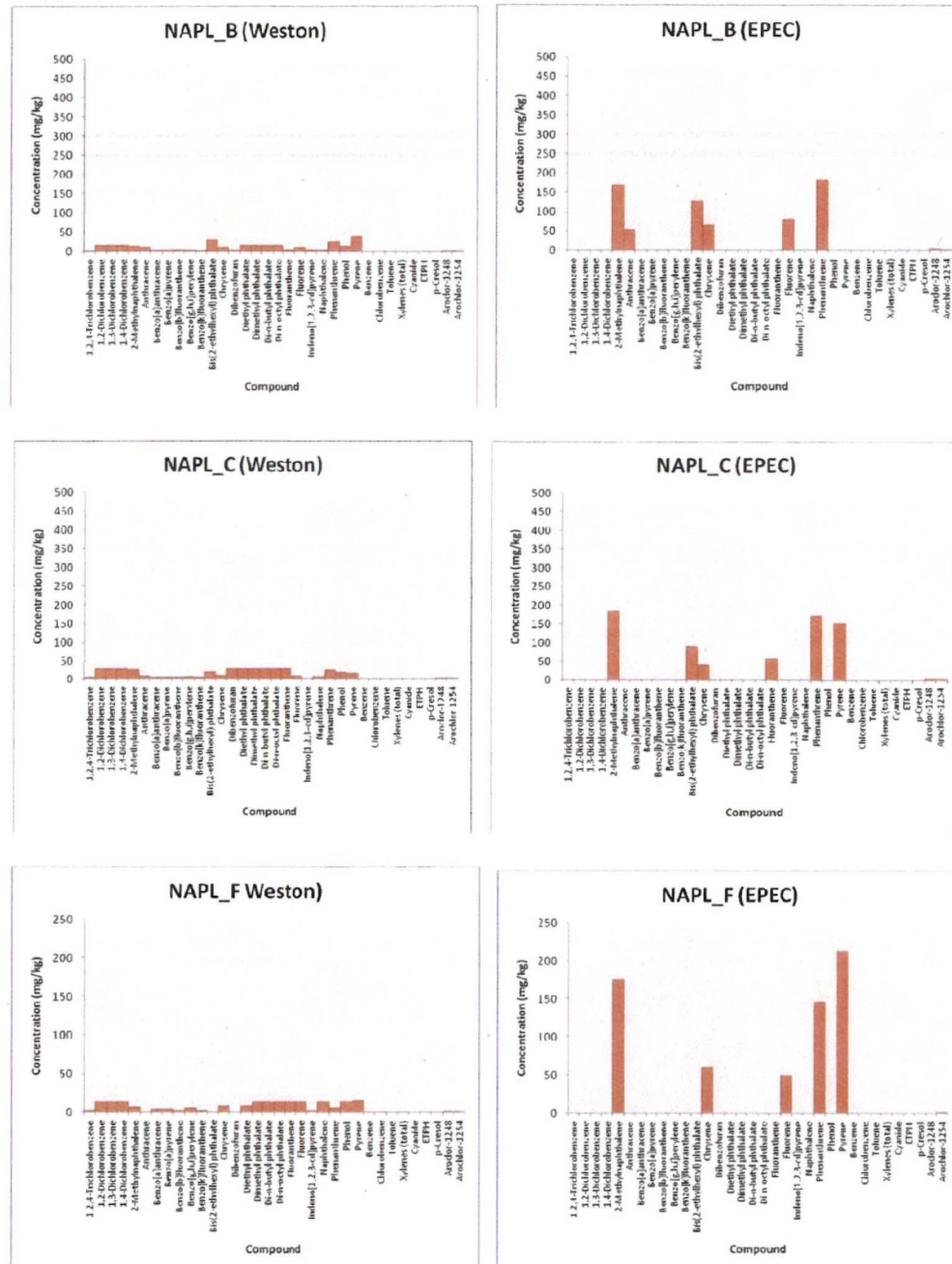
This chart shows high concentrations for 1,2,4-Trichlorobenzene (~1000 mg/kg) and 1,3-Dichlorobenzene (~1000 mg/kg). 1,4-Dichlorobenzene is also present at approximately 600 mg/kg. Other compounds like 2-Methylnaphthalene and 1-Methylnaphthalene are present at lower concentrations around 300 mg/kg. The x-axis lists 30 compounds, including various chlorinated benzenes, naphthalenes, and phenols.

EPA Split (NAPL_D)

This chart shows a much lower overall concentration profile. The highest concentration is for 1,2,4-Trichlorobenzene at approximately 260 mg/kg. Other compounds like 1,3-Dichlorobenzene and 1,4-Dichlorobenzene are present at around 150 mg/kg. The x-axis lists 30 compounds, including various chlorinated benzenes, naphthalenes, and phenols.

Based upon the distribution of analytes shown in the tar-like material (in both Weston and EPEC samples), there appears to be two distinct types of material which comprise the “NAPL” mass. Samples NAPL-B, NAPL-C and NAPL-F, the three northernmost (upgradient) tar-like material samples along the Channel D transect, appear to contain similar concentrations of SVOCs, as well as similar contaminant distributions. For example, all three EPEC samples show elevated levels of 2-methylnaphthalene, BEHP, chrysene and phenanthrene. Weston samples show a similar contaminant distribution but lower overall concentrations than do the EPEC sample results. Contaminant distributions are depicted in Figure 2.

Figure 2 – Comparison of analytical results for NAPL samples B, C and D show similar contaminant distributions, denoting similar provenance.

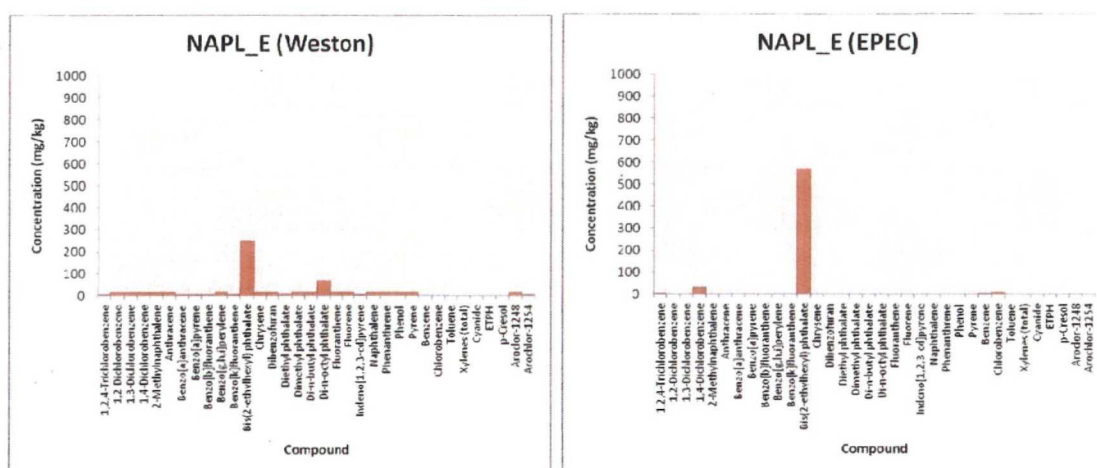


The analytical results for NAPL-D (histograms shown in Figure 1) show elevated concentrations of dichlorobenzenes and BEHP, and its composition is dis-similar to the other tar-like material samples. It is important to note that chlorobenzene is present in the EPEC NAPL-D sample because EPEC performed a standard analysis for VOCs. However, chlorobenzene was not detected as a tentatively identified compound in the Weston SVOC scan. Chlorobenzene was not detected in any other tar-like material samples collected by either EPEC or Weston. Previous sampling performed by EPEC in Channel D indicated elevated concentrations of chlorobenzene

were present in soils and sediments, as well as in the tar-like material. EPEC has attributed the detected chlorobenzene to historical Hatco site operations, even though Hatco has no record of chlorobenzene use and only very low concentrations of chlorobenzene (less than 7 mg/kg) have been detected on site.

The most downgradient tar-like material sample, location NAPL-E (Figure 3), contains higher concentrations of BEHP although low-level concentrations of other SVOCs were also detected.

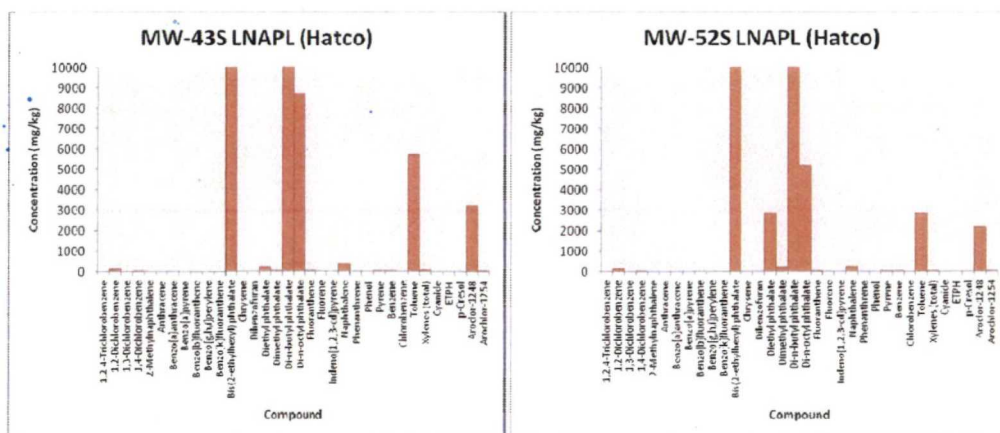
Figure 3 – Contaminant distribution in NAPL-E is unlike that of any other NAPL sample.



Comparison to Hatco LNAPL

Detailed evaluation of the on-site LNAPL plume at the Hatco site indicates that the Hatco LNAPL is composed of 10-25% BEHP and butyl benzyl phthalate, in addition to other phthalates. Toluene and PCBs (specifically Aroclor-1248) are also major components of the Hatco LNAPL. Histograms showing the distribution of contamination in representative Hatco LNAPL samples are shown in Figure 4.

Figure 4 – Hatco LNAPL contains high concentrations of phthalates and PCBs.



No NAPL sample on the Channel D property contains a similar contaminant profile to the Hatco LNAPL. Most notably, butyl benzyl phthalate and other phthalates besides BEHP were not present in the Channel D tar-like material. Also, although PCBs were found in the tar-like material, the concentrations were 2-4 orders of magnitude less than those found in the Hatco LNAPL. Toluene was also not present in tar-like material but is a major component of the Hatco LNAPL. In summary, the tar-like material found at EPEC bears no chemical or physical resemblance to the LNAPL found at the Hatco site.

Comparison to Coal Tar

Previous EPEC correspondence to the NJDEP and to Weston has suggested that EPEC believes the tar-like material on the Channel D property is related to historic Hatco operations involving coal tar feedstocks. However, the results of the Channel D tar-like material samples do not show consistently elevated concentrations of naphthalene or other SVOCs (specifically polycyclic aromatic hydrocarbons [PAHs]) that would be expected in coal tar. PAH compounds were detected sporadically and only at low concentrations in the tar-like material and in the co-located soil samples, suggesting that it is not coal tar. Additionally, documentation provided by a third-party coal tar expert retained by EPEC indicates that the NAPL material is most likely not related to coal tar.

It is Weston's understanding that additional specialty analyses performed for EPEC by META Environmental will be evaluated by EPEC's expert in detail to determine if any portion of the Channel D NAPL material is, in fact, indicative of coal tar.

Comparison to Off-Site Contaminant Sources

EPEC also provided to Weston results of their previous Gredel sampling efforts. The Gredel material on the Channel D property has been attributed (by EPEC) to be the result of filling performed by the off-site property owner to the east of Channel D, the former Cardell site. It is Weston's understanding that EPEC is currently negotiating with the responsible party for the cleanup of this material, which also contains low-level SVOC contamination similar to that found across portions of Channel D.

An evaluation of the existing sample data for the Cardell property border (along the east side of the Channel D parcel) indicates that benzo(A)pyrene and benzo(B)fluoranthene are present both on the Cardell site and in fill materials which had been emplaced by Cardell onto the Channel D parcel (the Gredel fill material), and in similar concentrations to the detections in Channel D "NAPL" and co-located "SO" soil samples. Additionally, analysis of the Gredel fill material sampled by EPEC (located along the southeastern side of the Channel D parcel) demonstrates low-level SVOC contamination [benzo(A)anthracene, benzo(A)pyrene, benzo(B)fluoranthene, and indeno(1,2,3-cd)pyrene], again similar in concentration to these compounds in "NAPL" and co-located "SO" soil samples.

While it is unlikely that the tar-like material is directly related to the Cardell property, low-level PAHs detected in the NAPL and underlying soils are similar in concentration to contamination present along the eastern Channel D border, currently attributed by EPEC to former Cardell operations. A summary of sample contaminant ranges for each sample type, including the Gredel material attributed to former Cardell operations, is included below:

Contaminant	Concentration Range in Channel D "NAPL" (Weston)	Concentration Range in Channel D "NAPL" (EPEC)	Concentration Range in Channel D Co-Located Soil Samples (Weston)	Concentration Range in Channel D Co-Located Soil Samples (EPEC)	EPEC Sample of Gredel Material
Benzo(a)anthracene	ND – 4.7 mg/kg	ND	ND – 0.19 mg/kg	ND – 0.81 mg/kg	ND – 4.7 mg/kg
Benzo(a)pyrene	ND – 4.1 mg/kg	ND – 28.8 mg/kg	ND – 0.11 mg/kg	ND – 51.4 mg/kg	ND – 4.1 mg/kg
Benzo(b)fluoranthene	ND – 2.4 mg/kg	ND	ND – 0.07 mg/kg	ND – 0.63 mg/kg	ND – 2.4 mg/kg
Bis(2-ethylhexyl)phthalate	ND – 250 mg/kg	ND – 569 mg/kg	ND – 2.3 mg/kg	ND – 22.1 mg/kg	ND
Chlorobenzene	N/A	ND – 521 mg/kg	ND – 2.4 mg/kg	2.4 – 19.4 mg/kg	None
1,4-dichlorobenzene	ND – 350 mg/kg	ND – 1,120 mg/kg	ND – 0.74 mg/kg	ND – 4.0 mg/kg	ND
Indeno(1,2,3-cd)pyrene	ND – 2.4 mg/kg	ND	ND – 0.06 mg/kg	ND	ND – 2.4 mg/kg
PCBs	0.08 – 16 mg/kg	ND – 21.9 mg/kg	ND – 0.09 mg/kg	ND	ND – 0.23 mg/kg

Evaluation

A comparison of PCB concentrations detected in Weston, EPEC and USEPA samples was performed. PCBs were detected at concentrations up to 16 mg/kg (Weston) and 21.9 mg/kg (EPEC) in the tar-like material; the EPA split sample contained 6.9 mg/kg PCBs. PCB detections included both Aroclor-1248 and Aroclor-1250 for EPEC samples, while only Aroclor-1248 was detected in Weston samples and the EPA split sample. EPEC sample results are considerably higher in concentration than co-located Weston samples, in some cases by more than an order of magnitude.

No elevated concentrations of PCBs were detected in any of the Weston or EPEC "SO" soil samples. This suggests that the tar-like material did not absorb PCBs from the surrounding soil and are part of the tar-like material itself.

As indicated in Weston's March 2010 letter to the NJDEP, chlorinated compounds detected at the Channel D site which EPEC has attributed to historic Hatco operations do not show any concentration gradient from the Hatco facility downgradient to the Channel D parcel, as would be expected if Hatco was a source for these compounds. As the table below indicates,



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chlorinated compounds detected on the Channel D parcel are up to two orders of magnitude above the maximum historical concentrations detected at the Hatco facility.


Contaminant	Concentrations at Hatco Site	EPEC's Maximum Detected Concentrations at Channel D Site
Chlorobenzene	Up to 6.9 ppm in soil (8.4 ppm in sediment)	Up to 908 ppm
1,2-dichlorobenzene	Up to 330 ppm	Up to 4,040 ppm
1,4-dichlorobenzene	Up to 90 ppm	Up to 942 ppm
1,2,4-trichlorobenzene	Up to 0.370 ppm	Up to 259 ppm

Based on these conclusions, we believe that the burden remains with EPEC to address these additional contaminants and material on their property. Further, Weston strongly recommends that we be provided access onto the EPEC property so that we can perform our proposed sampling for PCBs and BEHP in accordance with our January 2010 Sampling and Analysis Plan.

If you have any questions or concerns, please do not hesitate to contact me directly at 732-417-5834.

Very truly yours,

WESTON SOLUTIONS, INC.



Daniel R. Kopcow, P.E., PMP
Project Manager

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